

# A New Species of *Puncturella* (*Cranopsis*) from the Northeastern Pacific

BY

I. McT. COWAN

Department of Zoology, University of British Columbia, Vancouver, Canada

AND

JAMES H. McLEAN

Los Angeles County Museum of Natural History  
900 Exposition Boulevard, Los Angeles, California 90007

(Plate 13; 1 Text figure)

WEST AMERICAN SPECIES of the genus *Puncturella* LOWE, 1827, have been treated in a dissertation by McLEAN (1966). We have recently become aware of an undescribed species not covered by McLEAN (op. cit.) and have decided to present a detailed description before the review of the genus is to be published by him.

The subgenus *Cranopsis* A. ADAMS, 1860 (type species, *Cranopsis pelex* A. ADAMS, 1860, Japan), has previously been characterized as applying to species of *Puncturella* having the fissure placed in nearly central position on the anterior face of the shell. McLEAN (op. cit.) showed that a more useful criterion is the presence of a major double rib, extending from the anterior terminus of the fissure to the margin of the shell. The two halves of this rib are connected by a channel showing a distinct line of suture, visible under magnification. In the soft parts of the animal the roof of the mantle cavity is split from the mantle margin to the fissure. The suture on the anterior rib evidently results from the shell being produced by the split mantle margin. In *Puncturella* s. str. the mantle roof is continuous and is perforated only in contact with the fissure of the shell.

West American species heretofore placed in *Puncturella* s. str. but having the above diagnostic features of *Puncturella* (*Cranopsis*) are: *Puncturella* (*C.*) *major* DALL, 1891; *P. (C.) cucullata* (GOULD, 1846); and *P. (C.) multistriata* DALL, 1914.

*Puncturella* (*Cranopsis*) *decorata* COWAN & McLEAN,  
spec. nov.

(Plate 13, Figures 1 to 5; 1 Text figure)

**Description of Holotype:** Shell of moderate size for the genus; basal outline ovoid, sides nearly parallel, anterior end slightly narrower than the posterior. Width to length ratio 0.74. Anterior outline slightly convex; posterior slightly concave; apex approximately central, strongly down-curved and slightly deflected to the left. Fissure long and narrow with a constricted lower portion. Radial sculpture strong, composed of primary and secondary ribs regularly placed and clearly demarked; primary ribs originating on the apex; secondary ribs originating 2 to 3 mm below; 5 mm below the apex these number 13 ribs (7 primary and 6 secondary) in a 5 mm horizontal distance; secondary ribs precisely equidistant from each primary and nearly equal in strength to the primary ribs at the shell margin. Tertiary ribs originating 5 to 8 mm below the apex, but not reaching the size of the primary and secondary ribs at the margin. Ribs at margin broader than interspaces. The primary rib extending below the fissure is a double rib having a well defined sutural line extending to the margin. This compound rib is slightly deflected toward the right and is broader but not as raised as are the adjacent primary and secondary ribs. Ribs elegantly beaded, deriving from regular horizontal rid-

ges associated with the lines of growth, extending across the sulci as well as over the radial ridges. Numerous minute whitish punctations scattered in the channels between ribs; entire external surface speckled with minute chestnut flakes of what appears to be a cuticle, their abundance giving a brown appearance over the white shell. Inner surface of shell glossy and translucent, transmitting traces of the radial sculpture. Septum in the form of an open arc, slanted forward. Internal groove from fissure to margin clearly defined; margin of shell crenulate, corresponding to extension of the ribbing.

**Dimensions:** Long. 19.7 mm; lat. 14.5 mm; alt. 10.3 mm.

**Type Material:** Holotype, National Museum of Canada (NMC), cat. no. 45745 (Plate 13, Figure 1).

**Type Locality:** Off west coast, Queen Charlotte Island, British Columbia, 53°21.3' N latitude; 133°04.1' W longitude, at a depth of 106 fathoms (193 m). Collected by Mr. Frank Bernard aboard Fisheries Research Board of Canada vessel *G. B. Reed*, Bernard station 67-46, 11 August 1967. Seven additional paratypes of smaller size were taken in the same haul. Two are deposited in the type collection of the Los Angeles County Museum of Natural History (LACM), cat. no. 1175; one in the United States National Museum (USNM), cat. no. 678542; one in the Paleontological type collection of the California Academy of Sciences (CAS), cat. no. 13102; one in the Stanford University Paleontological type collection (SUPTC), cat. no. 9961; and two in the Cowan collection, cat. no. 7283a-b.

**Distribution:** Localities for additional specimens identified as belonging to this species are as follows:

1) Six specimens, Bjorka Island, near Sitka, Alaska, 56°49' N; 135°50' W; 110-117 fms.; G. McT. Cowan at Fisheries Research Board of Canada Station 66-2-26, 5 September 1966; LACM 6764 a (Plate 13, Figure 2); Cowan coll. 6764b-f;

2) Five specimens, off Cape James, Hope Island, Queen Charlotte Strait, B. C., 85-95 fms.; Cowan sta. 748, Cowan and McLean, 22 May 1963; Cowan coll. 4649a-d; LACM 4649e;

3) Three specimens, south side Matole Canyon, California, 300-100 fms.; *N. B. Scofield* sta. B. 17, 11 October 1950; CAS loc. 33179 (Plate 13, Figure 4);

4) One specimen off west end of San Nicolas Island, California, 30-50 fms., Templeton Crocker Expedition, 27 August 1932; CAS loc. 27603 (Plate 13, Figure 5);

5) One specimen (juvenile), between Cortez and Tanner Banks, California, 80 fms.; Louis Zermatten, April 1965; S. S. Berry coll., Redlands, California, cat. no. 33354 (Plate 13, Figure 3);

6) One specimen, Cortez Bank, California, 60 fms., USFC sta. 2911, USNM 130419.

Table 1

	Specimen No.	Length	Breadth	Height
		(in millimeters)		
NMC	(Fig. 1) 45745	19.7	14.5	10.3
LACM	1175a	11.2	8.4	5.5
LACM	1175b	11.7	8.5	5.4
SUPTC	9961	13.7	9.4	6.4
CAS	13102	13.5	10.4	6.7
USNM	678542	11.4	8.1	5.9
Cowan	7283a	12.8	9.3	5.4
Cowan	7283b	9.0	6.5	4.9
LACM	(Fig. 2) 6764a	13.3	10.0	5.8
Cowan	6764b	12.8	9.0	5.0
Cowan	6764c	17.3	12.0	8.0
Cowan	6764d	11.0	7.9	5.2
Cowan	6764e	13.0	10.8	6.0
Cowan	6764f	9.9	7.1	4.3
Cowan	4649a	15.0	12.3	7.8
Cowan	4649b	15.3	11.0	7.8
Cowan	4649c	10.7	8.4	5.6
Cowan	4649d	10.8	—	5.2
LACM	4649e	10.5	7.4	5.7
CAS	(Fig. 4) 33179a	23.4	17.8	12.8
CAS	33179b	22.9	15.2	10.0
CAS	33179c	—	14.7	8.4
CAS	(Fig. 5) 27603	18.7	13.5	8.5
SSB	(Fig. 3) 33354	6.5	4.5	2.7
Ratio of parameters to length		75%	48%	
		314.1	236.7	159.3

## Explanation of Plate 13

Figures 1 to 5: *Puncturella (Cranopsis) decorata* COWAN & McLEAN spec. nov.

Figure 1: Holotype, National Museum of Canada, cat. no. 45745. Off west coast, Queen Charlotte Island, British Columbia, 106 fms. Long. 19.7 mm; lat. 14.5 mm; alt. 10.3 mm; × 2

Figure 2: Off Bjorka Island, near Sitka, Alaska, 110-117 fms. LACM 6764 a. Long. 13.3 mm; lat. 10.0 mm; alt. 5.8 mm; × 2

Figure 3: Between Cortez and Tanner Banks, California, 80 fms. SSB 3354. Long. 6.5 mm; lat. 4.5 mm; alt. 2.7 mm; × 5

Figure 4: South side of Matole Canyon, California, 300-100 fms. CAS 33179 a. Long. 23.4 mm; lat. 17.8 mm; alt. 12.8 mm; × 2

Figure 5: Off San Nicolas Island, California, 30-50 fms. CAS 27603. Long. 18.7 mm; lat. 13.5 mm; alt. 8.5 mm; × 2

Figures 6 to 7: *Puncturella (Cranopsis) multistriata* DALL, 1914

Figure 6: Cadboro Bay, Victoria, British Columbia. LACM A.375. Long. 16.6 mm; lat. 12.4 mm; alt. 8.4 mm; × 2

Figure 7: Puget Sound, Washington, dredged. LACM A.8487. Long. 25.0 mm; lat. 20.0 mm; alt. 15.7 mm; × 2

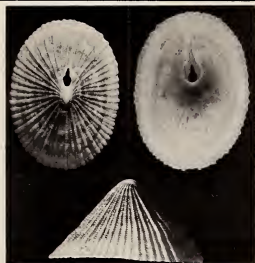


Figure 1

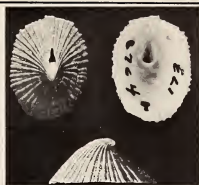


Figure 2



Figure 3



Figure 4

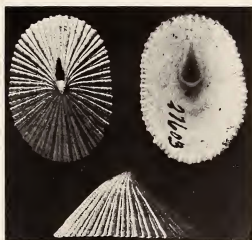


Figure 5

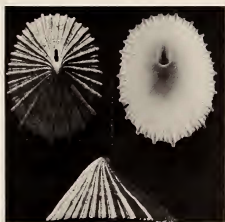


Figure 6



Figure 7

